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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,929

09/23/2003

Katsumasa Yoshii

9281-4666

3347

7590

11/18/2005

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EXAMINER

NGUYEN, HOAN C

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/668,929

Applicant(s)

YOSHII ET AL.

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-23 is/are pending in the application.
- 4a) Of the above claim(s) 19,20,22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-18 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 08/01/2005 has been entered.

The amended feature "a maximum inclination angle at one side portion disposed opposite to an observer" in claim 1 can interpret as narrowing view angle disclosed in Fig 5 in this application.

Claim Objections

Claim 1 is objected to because of the following informalities: the limitation "said concave portion" in claim 1 is lack antecedent. This should be understood as the concave portion of the reflective portions. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2871

1. Claims 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chung et al. (US4456336).

Claim 17:

Chung et al. teach (Figs 1A-B) a liquid crystal display device comprising

- a reflector 16 having a plurality of light reflective portions arranged randomly adjacent to each other on a surface of a base material (Fig. 1B),
- each said concave portion having a curved surface with a maximum inclination angle at one side portion, disposed opposite to an observer (this reflector of Chung designed to provide high brightness over extended view angles of less than 40° (col. 2 lines 9-11 and col. 3 lines 19-21, Fig. 4), in this narrowing view angle inherently exists an observer), thereof so that the one side portion has inherently a larger reflectance magnitude than an opposing side portion, and
- a light reflectance peak at a predetermined angle in accordance with a location of the maximum inclination angle, and that opposes a viewpoint of the observer.

wherein

Claim 18: the base material (aluminum or silver, col. 3 lines 3-4) is reflective, thereby forming a reflective liquid crystal display device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2871

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US6130736A) in view of Chung et al. (US4456336).

Sasaki et al. teach (Figs. 1 and 4) a liquid crystal display device comprising:

- a pair of substrates 1/2,
- a liquid crystal layer 3 disposed between the substrates,
- the reflector 14 disposed on one of the substrates,
- a transparent intervening layer (a first overcoat layer 17a) disposed on the reflector,
- a color filter layer 16 disposed on the transparent intervening layer,
- a transparent planarization layer (a second overcoat layer 17b) disposed on the color filter layer,
- a transparent electrode (9 made of ITO (indium-tin-oxide)) disposed on the transparent planarization layer,
- an alignment layer (an orientation film 11) disposed between the transparent electrode and the liquid crystal layer.

However, Sasaki et al. fail to teach the reflector with feature in claims 17.

Art Unit: 2871

Chung et al. teach (Fig. 1A-B and 4) the reflector with feature in claim 17 for improving reflector in view angle less than 40° (col. 2 lines 9-11 and col. 3 lines 19-21, Fig. 4).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a reflection type liquid crystal display device as Sasaki et al. with the reflector with feature in claim 17 for improving reflector in view angle less than 40° as taught by Chung et al. (col. 2 lines 9-11 and col. 3 lines 19-21).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim H. Robert can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HOAN C. NGUYEN
Examiner
Art Unit 2871

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ANDREW SCHECHTER
PRIMARY EXAMINER